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EXAMINER

ABEL JALIL, NEVEEN

ART UNIT

PAPER NUMBER

2165

MAIL DATE

DELIVERY MODE

11/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,468

Applicant(s)

FRESKO ET AL.

Examiner

NEVEEN ABEL JALIL

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 29-31 is/are pending in the application.
4a) Of the above claim(s) 28 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-27, and 29-31 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I in the reply filed on September 4, 2007 is acknowledged.
2. Claim 28 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4, 2007.

Specification

3. The abstract of the disclosure is objected to because

In line 2, the use of the term "is disclosed" should be deleted. Correction is required.

See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claims 29-31 the recitation of “computer readable medium” is not defined in the specification in such way as to exclude signals or any related non-statutory embodiments. For the purpose of examination, the “medium” is taken to cover only statutory embodiments such as storage medium, RAM, NVRAM...etc. and exclude carrier waves, signals, radio, propagation, communication, and transmission.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 and its dependents are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. That claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article of physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce reproducible results. To be tangible the claimed invention must produce a practical application

or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claims also fail to produce a tangible result because:

Claim 1 ends with the limitation "allocating" but does not offer any tangible concrete or real work result, what occurs after "allocation"... storage? or another garbage collection routine to promote and remove expired objects? what appears to be missing is "allocating" where?

The dependent claims also fail to cure the deficiency.

Claim Objections

6. Claims 2-14, 16-27, and 30-31 are objected to because of the following informalities:

All the dependent claims should start with the article "The" instead of "A" for consistency and accuracy to avoid lack of antecedent basis. Appropriate correction is required.

Claim 5, line 3, "mostlygarbage" appears to be a typo and needs space between the two words.

Claim 8, line 6, the word "paring" is not understood and appears to be a typo.

Terms such as "if", "is used", "that operates to", "used for", "can be" etc. found in claims 14-17 should be replaced with more definitive and direct language (such as "when", "configured to", "to", "is" ... etc.) to avoid any interpretation under intended use and optional language.

In claims 16 and 17, the term “can be” suggests optionally and should be replaced with more definitive term such as “is”.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2-6, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms “likely”, “mostly”, and “at least 50 % change” in claims 2-6, and 8 are a relative term which renders the claim indefinite. The terms “likely”, “mostly”, and “at least 50 % change” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. These terms are subjective and relative and can change from system to system or user to user.

Claims 2-6 and 8 appear to be relative in nature without providing definitive measure to their outcome. Its unclear how all these likelihood and percentages are being measured and estimated and under what conditions are the determinations made to their application.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-26, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Agesen et al. (U.S. Pub. No. 2001/0044856 A1).

As to claims 1, 15, and 29, Agesen et al. discloses a method of allocating objects in a memory portion that includes a Young Generation and at least one Older Generation, said method comprising:

- (a) determining whether at least one object should be allocated in said Young Generation in accordance with a first promotion policy exercised for promoting objects from said Young Generation to an Older Generation of said memory portion (See paragraph 0040-0041);
- (b) determining a second promotion policy for said at least one object when said determining (a) determines that said object should not be allocated in said being Generation in accordance with said first promotion policy (See paragraph 0068, and see paragraph 0099); and
- (c) allocating said at least one object in said Young Generation in accordance with said second policy when said determining (b) determines a second promotion policy for said object (See paragraph 0102, and see paragraphs 0121-0123).

As to claim 2, Agesen et al. discloses wherein said determining (a) of whether at least one object should be allocated in accordance with a first promotion policy comprises:

determining whether said at least one object is likely to be used as temporary data (See paragraph 0102).

As to claim 3, Agesen et al. discloses wherein said determining (a) of whether at least one object should be allocated in accordance with a first promotion policy comprises:

determining whether said at least one object is likely to be garbage (See paragraph 0104).

As to claim 4, Agesen et al. discloses wherein said at least one object is likely to be garbage if there is at least a 50% change that said at least one object will be garbage within an acceptable time period (See paragraph 0122, wherein it is well known in the art that the percent can be user or machine defined).

As to claim 5, Agesen et al. discloses wherein said determining (a) of whether at least one object should be allocated in accordance with a first promotion policy comprises:

determining whether said at least one object is likely to be mostly garbage (See paragraph 0104, wherein unclear what "mostly garbage" means).

As to claim 6, Agesen et al. discloses wherein said determining of whether said at least one object is likely to be mostly garbage determines whether at least 50% of said at least one object is likely to be garbage (See paragraph 0117, wherein the percentage is well known in the art to be user defined or machine specific).

As to claims 7, and 31, Agesen et al. discloses wherein said determining (a) of whether an object should be allocated in accordance with a first promotion policy comprises:

determining whether system code is allocating said object; and
wherein said method further comprises:
selecting a second promotion policy that postpones the promotion of said at least one object with respect to other objects allocated in accordance with said first promotion policy (See paragraphs 0039-0041).

As to claim 8, Agesen et al. discloses wherein of said determining (a) of whether an object should be allocated in accordance with a first promotion policy comprises:
determining whether one or more of the following operations are being performed:
loading a class, parsing a file that represents a class, dynamic compilation, and a call to a library function that is likely to generate temporary data (See paragraph 0036).

As to claim 9, Agesen et al. discloses wherein said class is Java TM compliant class represented in a class file, said dynamic compilations are performed in Java TM compliant run time environment, and said library function is Java TM compliant library method (See paragraph 0011, and see paragraph 0034).

As to claim 10, Agesen et al. discloses wherein said Java TM compliant library method is associated with concatenation of Java TM strings (See paragraph 0057).

As to claim 11, Agesen et al. discloses wherein said (c) allocating of said at least one object in said Young Generation in accordance with said second promotion policy comprises:

allocating said at least one object with a header that indicates said second policy (See paragraph 0087 and paragraph 0101)

As to claims 12, 20, and 30, Agesen et al. discloses wherein said header includes a preemption indicator that indicates a garbage collection count should be preempted and said at least one object should not be promoted to said next generation (See paragraph 0104).

As to claims 13, and 21, Agesen et al. discloses wherein said header includes a preemption indicator and a preemption value;

wherein said preemption indicator indicates that a garbage collection count should be preempted (See paragraph 0106);

wherein said preemption value provides a preemptive garbage collection count that is used instead of a garbage collection count (See paragraph 0105, and paragraph 0122).

As to claims 14, and 22, Agesen et al. discloses wherein said header provides a garbage collection count that is used to determine when said at least one object should be promoted from said Young Generation to said Older Generation (See paragraph 0105).

As to claim 23, Agesen et al. discloses further comprising:

a garbage collector that reads said header and promotes said at least one object in accordance with said header (See paragraph 0083).

As to claim 24, Agesen et al. discloses wherein said garbage collector delays or avoids promotion of said at least one object with respect to objects allocated with said first allocator (See paragraph 0087).

As to claim 25, Agesen et al. discloses wherein said computer system is a virtual machine (See paragraph 0034).

As to claim 26, Agesen et al. discloses wherein said computer system is a Java TM compliant virtual machine (See paragraph 0034).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agesen et al. (U.S. Pub. No. 2001/0044856 A1) in view of Hayward (U.S. Pub. No. 2003/0187888).

As to claim 27, Agesen et al. discloses does not explicitly disclose wherein said computer system is provided for a handheld, an embedded, or mobile device.

Hayward teaches wherein said computer system is provided for a handheld, an embedded, or mobile device in paragraph 0007.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to have an electronic device be a mobile telephone running a Java based application which require garbage collection since mobile computing devices are well known and prevalent in the art and they provide mobility and accessibility.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For complete list of cited relevant art, see PTO form 892.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEVEEN ABEL JALIL whose telephone number is (571)272-4074. The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian P. Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Neveen Abel-Jalil
Primary Examiner
November 6, 2008
/Neveen Abel-Jalil/
Examiner, Art Unit 2165